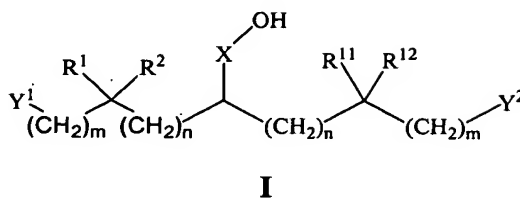
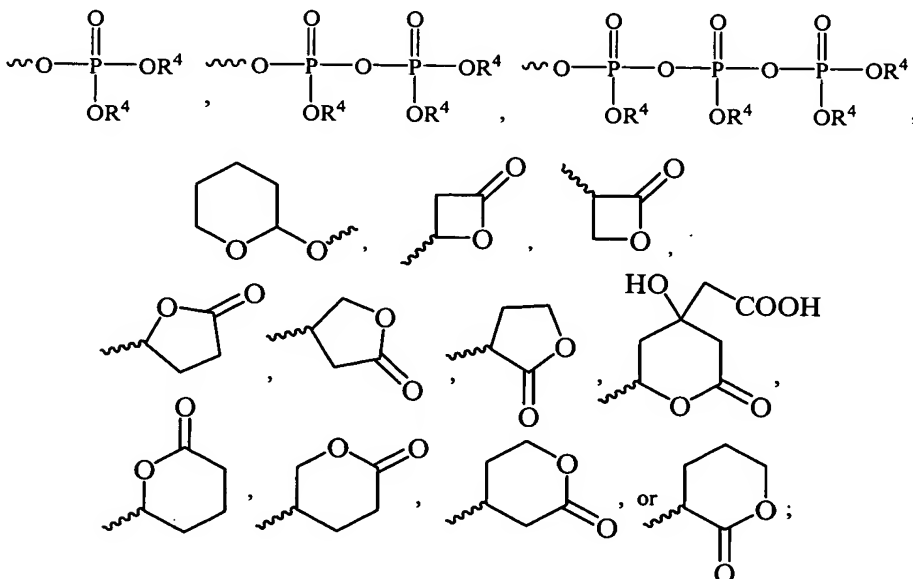


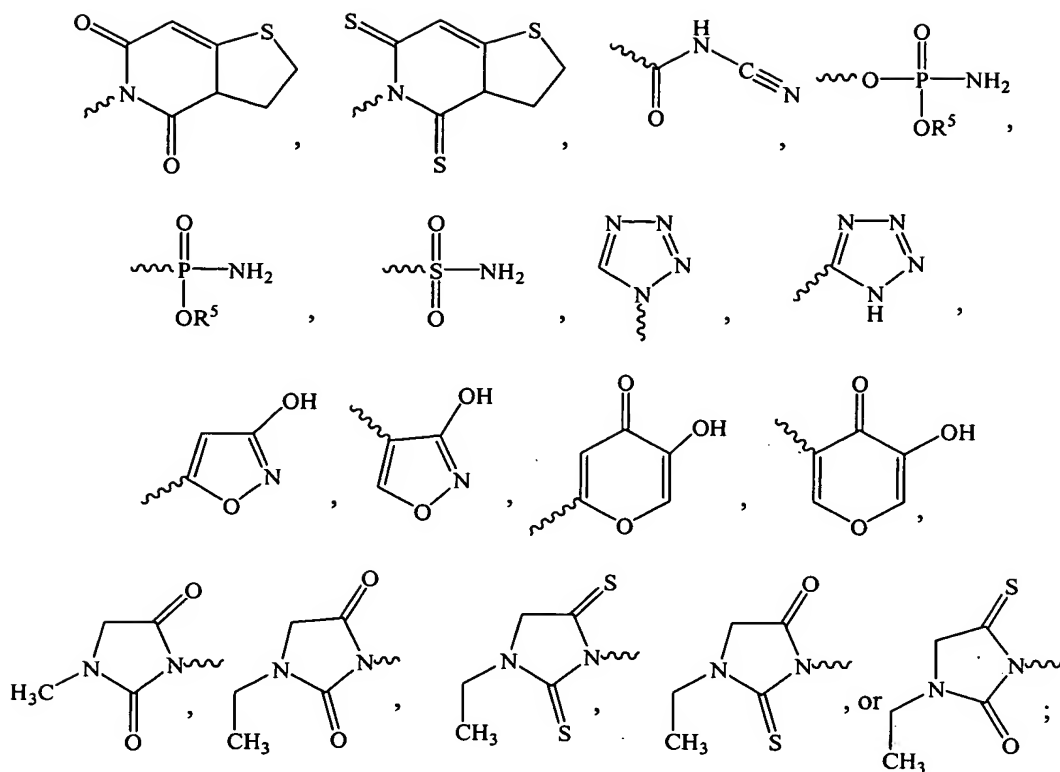
WHAT IS CLAIMED:

1. A compound of formula I:



- 5 or a pharmaceutically acceptable salt, hydrate, solvate or a mixture thereof, wherein:
- (a) each occurrence of m is independently an integer ranging from 0 to 5;
- (b) each occurrence of n is independently an integer ranging from 3 to 7;
- (c) X is (CH<sub>2</sub>)<sub>z</sub> or Ph, wherein z is an integer from 0 to 4;
- 10 (d) each occurrence of R<sup>1</sup> and R<sup>2</sup> is independently (C<sub>1</sub>–C<sub>6</sub>)alkyl, (C<sub>2</sub>–C<sub>6</sub>)alkenyl, (C<sub>2</sub>–C<sub>6</sub>)alkynyl, phenyl, benzyl, or R<sup>1</sup> and R<sup>2</sup> and the carbon to which they are both attached are taken together to form a (C<sub>3</sub>–C<sub>7</sub>)cycloalkyl group;
- (e) each occurrence of R<sup>11</sup> and R<sup>12</sup> and the carbon to which they are both attached are taken together to form a (C<sub>3</sub>–C<sub>7</sub>)cycloalkyl group;
- 15 (f) each occurrence of Y<sup>1</sup> and Y<sup>2</sup> is independently (C<sub>1</sub>–C<sub>6</sub>)alkyl, OH, COOH, COOR<sup>3</sup>, SO<sub>3</sub>H,





wherein:

- (i)  $R^3$  is  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH,  $(C_1-C_6)$ alkoxy, or phenyl groups,
- (ii) each occurrence of  $R^4$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl and is unsubstituted or substituted with one or two halo, OH,  $C_1-C_6$  alkoxy, or phenyl groups; and
- (iii) each occurrence of  $R^5$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl.

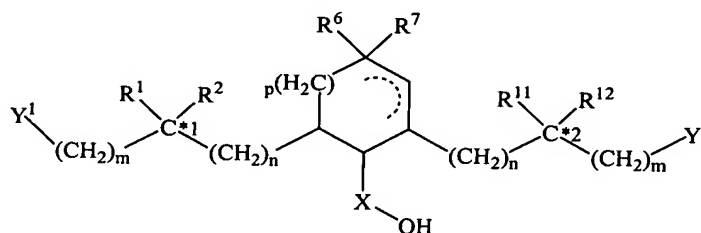
2. The compound of claim 1, wherein each occurrence of  $Y^1$  and  $Y^2$  is independently OH,  $COOR^3$ , or COOH.

3. The compound of claim 1, wherein m is 0.

4. The compound of claim 1, wherein m is 1.

5. The compound of claim 1, wherein n is 4.

6. The compound of claim 1, wherein n is 5.
7. The compound of claim 1, wherein X is  $(CH_2)_z$  and z is 0.
8. The compound of claim 1, wherein each occurrence of  $R^1$  and  $R^2$  and the carbon to which they are both attached are taken together to form a  $(C_3-C_7)$ cycloalkyl group.
- 5 9. The compound of claim 1, wherein  $Y^1$  and  $Y^2$  are each independently  $(C_1-C_6)$ alkyl.
10. The compound of claim 1, wherein  $Y^1$  and  $Y^2$  are each methyl.
11. A compound of the formula II:



II

- 10 or a pharmaceutically acceptable salt, hydrate, solvate, or mixtures thereof, wherein
- (a) each occurrence of  $R^1$  and  $R^2$  is independently  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, benzyl, or  $R^1$  and  $R^2$  and the carbon to which they are both attached are taken together to form a  $(C_3-C_7)$ cycloalkyl group;
  - 15 (b) each occurrence of  $R^{11}$  and  $R^{12}$  and the carbon to which they are both attached are taken together to form a  $(C_3-C_7)$ cycloalkyl group;
  - (c) each occurrence of n is independently an integer ranging from 1 to 7;
  - (d) X is  $(CH_2)_z$  or Ph, wherein z is an integer from 0 to 4;
  - (e) each occurrence of m is independently an integer ranging from 0 to 4;
  - 20 (f) each occurrence of  $Y^1$  and  $Y^2$  is independently  $(C_1-C_6)$ alkyl,  $CH_2OH$ ,  $C(O)OH$ ,  $OC(O)R^3$ ,  $C(O)OR^3$ ,  $SO_3H$ ,

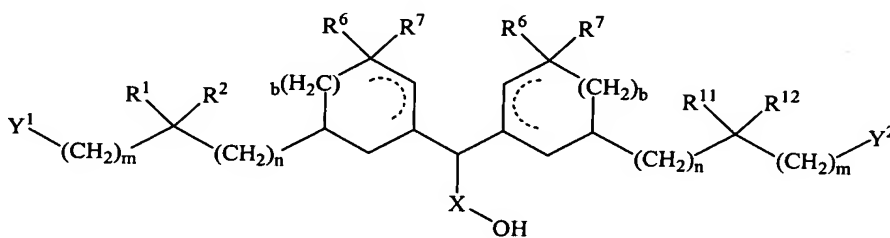
24. The compound of claim 11, wherein C\*<sup>1</sup> C\*<sup>2</sup> are of the stereochemical configuration (S<sup>1</sup>,S<sup>2</sup>) or substantially (S<sup>1</sup>,S<sup>2</sup>).

25. The compound of claim 11, wherein C\*<sup>1</sup> C\*<sup>2</sup> are of the stereochemical configuration (S<sup>1</sup>,R<sup>2</sup>) or substantially (S<sup>1</sup>,R<sup>2</sup>).

5 26. The compound of claim 11, wherein C\*<sup>1</sup> C\*<sup>2</sup> are of the stereochemical configuration (R<sup>1</sup>,R<sup>2</sup>) or substantially (R<sup>1</sup>,R<sup>2</sup>).

27. The compound of claim 11, wherein C\*<sup>1</sup> C\*<sup>2</sup> are of the stereochemical configuration (R<sup>1</sup>,S<sup>2</sup>) or substantially (R<sup>1</sup>,S<sup>2</sup>).

28. A compound of formula III:



III

or a pharmaceutically acceptable salt, hydrate, solvate, or mixtures thereof, wherein:

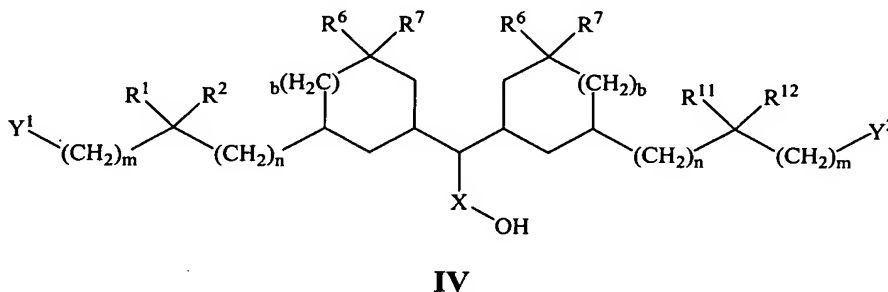
- (a) each occurrence of R<sup>1</sup> and R<sup>2</sup> is independently (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, phenyl, benzyl, or R<sup>1</sup> and R<sup>2</sup> and the carbon to which they are both attached are taken together to form a (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl group;
- (b) each occurrence of R<sup>11</sup> and R<sup>12</sup> and the carbon to which they are both attached are taken together to form a (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl group;
- (c) each occurrence of n is independently an integer ranging from 1 to 7;
- (d) X is (CH<sub>2</sub>)<sub>z</sub> or Ph, wherein z is an integer from 0 to 4;
- (e) each occurrence of m is independently an integer ranging from 0 to 4;
- (f) each occurrence of Y<sup>1</sup> and Y<sup>2</sup> is independently (C<sub>1</sub>-C<sub>6</sub>)alkyl, CH<sub>2</sub>OH, C(O)OH, OC(O)R<sup>3</sup>, C(O)OR<sup>3</sup>, SO<sub>3</sub>H,



(iii) each occurrence of  $R^5$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl; and

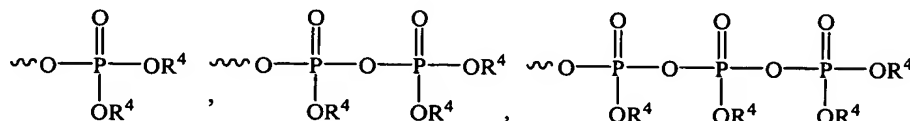
- (f) each occurrence of b is independently 0 or 1 or optionally the presence of one or more additional carbon-carbon bonds that when present complete one or more carbon-carbon double bonds.

29. A compounds of formula IV:



or a pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein

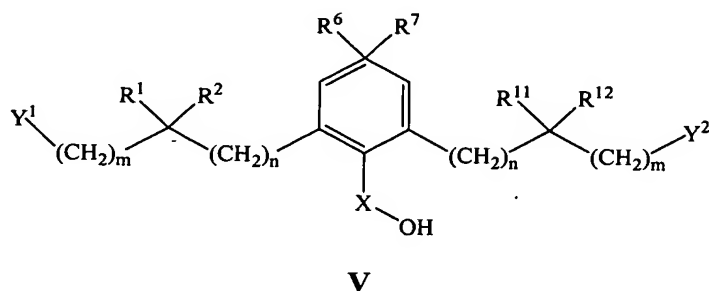
- (a) each occurrence of  $R^1$  and  $R^2$  is independently  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, benzyl, or  $R^1$  and  $R^2$  and the carbon to which they are both attached are taken together to form a  $(C_3-C_7)$ cycloakyl group;
- (b) each occurrence of  $R^{11}$  and  $R^{12}$  and the carbon to which they are both attached are taken together to form a  $(C_3-C_7)$ cycloakyl group;
- (c) each occurrence of n is independently an integer ranging from 1 to 7;
- (d) X is  $(CH_2)_z$  or Ph, wherein z is an integer from 0 to 4;
- (e) each occurrence of m is independently an integer ranging from 0 to 4;
- (f) each occurrence of  $Y^1$  and  $Y^2$  is independently  $(C_1-C_6)$ alkyl,  $CH_2OH$ ,  $C(O)OH$ ,  $OC(O)R^3$ ,  $C(O)OR^3$ ,  $SO_3H$ ,





- (g) b is 0 or 1 or optionally the presence of one or more additional carbon-carbon bonds that when present complete one or more carbon-carbon double bonds.

30. A compound of formula V:



or a pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein

- (a) each occurrence of  $R^1$  and  $R^2$  is independently  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, benzyl, or  $R^1$  and  $R^2$  and the carbon to which they are both attached are taken together to form a  $(C_3-C_7)$ cycloalkyl group;

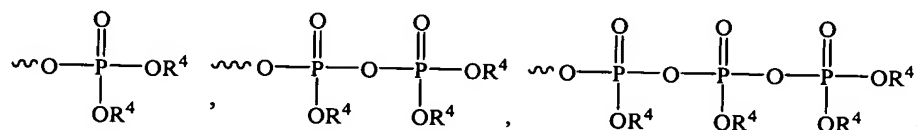
- (b) each occurrence of  $R^{11}$  and  $R^{12}$  and the carbon to which they are both attached are taken together to form a  $(C_3-C_7)$ cycloalkyl group;

- (c) each occurrence of n is independently an integer ranging from 1 to 7;

- (d) X is  $(CH_2)_z$  or Ph, wherein z is an integer from 0 to 4;

- (e) each occurrence of m is independently an integer ranging from 0 to 4; and

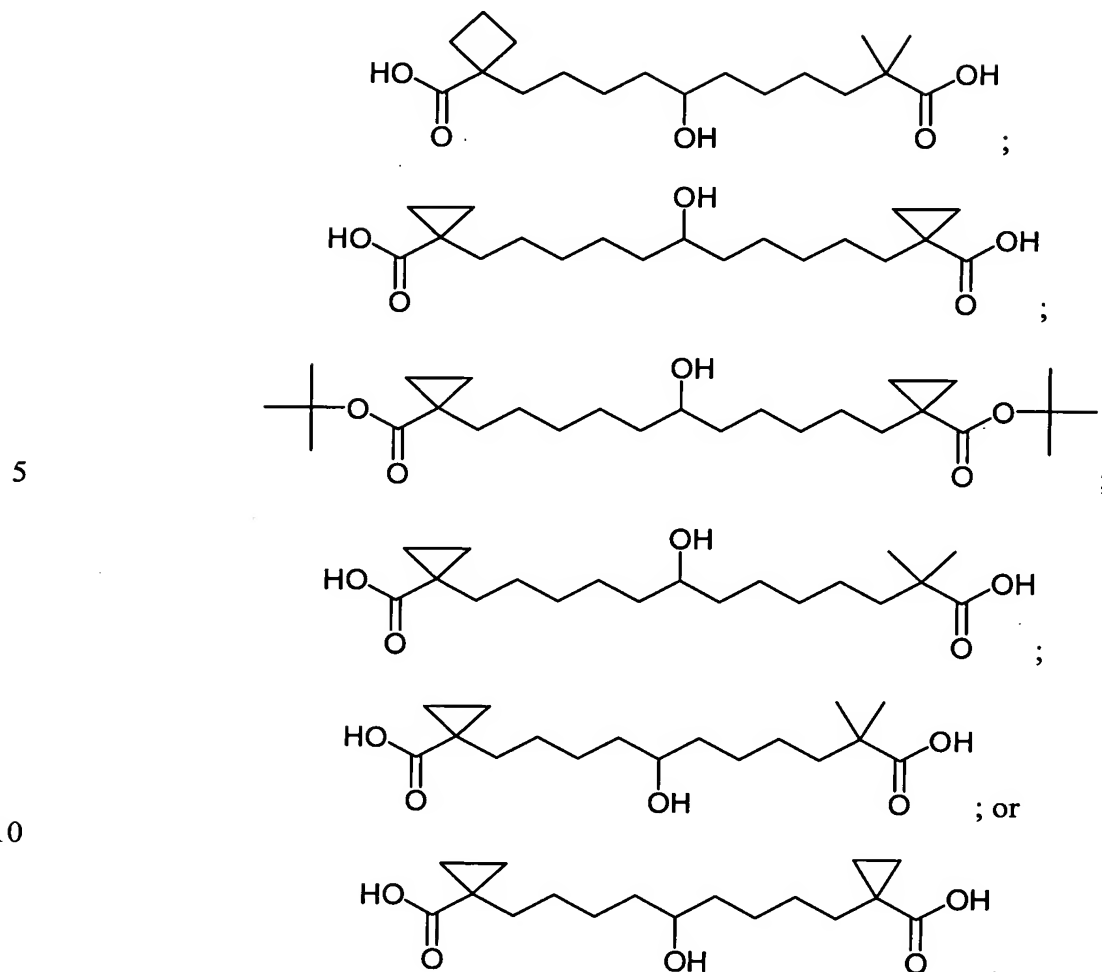
- (f) each occurrence of  $Y^1$  and  $Y^2$  is independently  $(C_1-C_6)$ alkyl,  $CH_2OH$ ,  $C(O)OH$ ,  $OC(O)R^3$ ,  $C(O)OR^3$ ,  $SO_3H$ ,







31. A compound of structure:



32. A pharmaceutical composition comprising a compound of claim 1, 11, 28, 29, 30, or 31 and a pharmaceutically acceptable vehicle, excipient, or diluent.

15 33. The pharmaceutical composition comprising a compound of claim 1, 11, 28, 29, 30, or 31 further comprising a second therapeutic agent.

20 34. A method for treating or preventing aging, Alzheimer's Disease, cancer, cardiovascular disease, diabetic nephropathy, diabetic retinopathy, a disorder of glucose metabolism, dyslipidemia, dyslipoproteinemia, hypertension, impotence, inflammation, insulin resistance, lipid elimination in bile, obesity, oxysterol elimination in bile, pancreatitis, pancreatitis, Parkinson's disease, a peroxisome proliferator activated receptor-associated disorder, phospholipid elimination in bile, renal disease, septicemia, Syndrome X, thrombotic disorder, modulating C reactive protein, or enhancing bile production in a

patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

35. A method for treating or preventing a cardiovascular disease in a patient,  
5 comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

36. A method for treating or preventing a dyslipidemia in a patient, comprising  
10 administering to a patient in need of such treatment or prevention a therapeutically, effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

37. A method for treating or preventing a dyslipoproteinemia in a patient,  
comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

15 38. A method for treating or preventing a disorder of glucose metabolism in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

39. A method for treating or preventing Alzheimer's disease in a patient,  
20 comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

40. A method for treating or preventing Syndrome X in a patient, comprising  
25 administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

41. A method for treating or preventing septicemia in a patient, comprising  
administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

42. A method for treating or preventing a thrombotic disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

5 43. A method for treating or preventing a peroxisome proliferator activated receptor associated disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

10 44. A method for treating or preventing obesity in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

45. A method for treating or preventing pancreatitis in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

15 46. A method for treating or preventing hypertension in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

20 47. A method for treating or preventing renal disease in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

48. A method for treating or preventing cancer in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

25 49. A method for treating or preventing inflammation in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.

50. A method for treating or preventing impotence in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
51. A method for treating or preventing a neurodegenerative disease or disorder  
5 in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
52. A method of inhibiting fatty acid synthesis in a patient, comprising  
10 administering to a patient in need thereof a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
53. A method inhibiting sterol synthesis in a patient, comprising administering to a patient in need thereof a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
54. A method of treating or preventing a metabolic syndrome disorder in a  
15 patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
55. A pharmaceutical composition comprising a compound of claim 1, 11, 28, 29, 30, or 31 and a pharmaceutically acceptable vehicle, excipient, or diluent which is  
20 administered in combination with a statin.
56. A method of treating or preventing a disease or disorder that is capable of being treated or prevented by increasing HDL levels, which comprises administering to a patient in need of such treatment or prevention a therapeutically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.
- 25 57. A method of treating or preventing a disease or disorder that is capable of being treated or prevented by decreasing LDL levels, which comprises administering to a patient in need of such treatment or prevention a therapeutically effective amount of a compound of claim 1, 11, 28, 29, 30, or 31.



(iii) each occurrence of  $R^5$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl; and

(g) b is 0 or 1 or optionally the presence of one or more additional carbon-carbon bonds that when present complete one or more carbon-carbon double bonds.

5           12.    The compound of claim 11, wherein each occurrence of  $Y^1$  and  $Y^2$  is independently OH,  $COOR^7$ , or COOH.

          13.    The compound of claim 11, wherein m is 4.

          14.    The compound of claim 11, wherein m is 5.

          15.    The compound of claim 11, wherein X is  $(CH_2)_z$  and z is 0.

10           16.    The compound of claim 11, wherein each occurrence of  $R^1$  and  $R^2$  and the carbon to which they are both attached are taken together to form a  $(C_3-C_7)$ cycloalkyl group.

          17.    The compound of claim 11, wherein  $Y^1$  and  $Y^2$  is  $C(O)OH$  or  $CH_2OH$ .

          18.    The compound of claim 11, wherein  $R^3$  and  $R^4$  are each independently  $(C_1-C_6)$  alkyl.

15           19.    The compound of claim 11, wherein  $R^3$  and  $R^4$  are each methyl.

          20.    The compound of claim 11, wherein  $C^{*1}$  is of the stereochemical configuration R or substantially R.

          21.    The compound of claim 11, wherein  $C^{*1}$  is of the stereochemical configuration S or substantially S.

20           22.    The compound of claim 11, wherein  $C^{*2}$  is of the stereochemical configuration R or substantially R.

          23.    The compound of claim 11, wherein  $C^{*2}$  is of the stereochemical configuration S or substantially S.